

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A process to produce a formed zeolite for adsorption purposes with improved adsorption and desorption properties comprising the following steps

a) mixing of at least one faujasite zeolite powder, ~~in particular a zeolite 13X powder or a zeolite LSX powder~~, with a clay type binder, an inorganic phosphorous salt, and water, the faujasite zeolite powder selected from the group consisting of zeolite 13X powder and a zeolite LSX powder, and combinations thereof,

b) producing a formed zeolitic body out of the mixture of step a), and

c) drying and calcination of said zeolitic body produced in step b) to fix the binder and to get an adsorption reagent.

2. (Original) The process of claim 1, comprising after step c) a step of ion exchange.

3. (Previously Presented) The process of claim 1, wherein the amount of clay binder is between 5 and 30 weight percent based on the formed zeolitic body.

4. (Previously Presented) The process of claim 1, wherein the amount of clay binder is between 5 and 20 weight percent of the formed zeolitic body.

5. (Previously Presented) The process of claim 1, wherein the zeolite powder is at least 70 % in its sodium form.

6. (Previously Presented) The process of claim 1, wherein the zeolite powder is at least 90% in its sodium form.

7. (Previously Presented) The process of claim 1, wherein the zeolite powder is at maximum 30 % in its potassium form.

8. (Currently Amended) The process of claim 1, wherein a pore forming agent is added to the zeolite and binder mixture, the pore forming agent selected from the group consisting of [R] rayon fibers, [N] nylon fibers, [S] sisal fibers, flax, and organic polymers selected from the

group consisting of starch, starch derivatives, ligninsulfonates, polyacrylamides, polyacrylic acids, cellulose and cellulose derivatives.

9. (Previously Presented) The process claim 8, wherein the pore forming agent amounts to 2 to 15 weight percent of the formed zeolitic body.

10. (Previously Presented) The process of claim 1, wherein the inorganic phosphorous salt used in step a) is a phosphorous salt selected from the group consisting of tetrasodium diphosphate, tetrasodium polyphosphate, trisodium phosphate, disodium hydrogen phosphate, sodium dihydrogen phosphate, tripotassium phosphate, dipotassium hydrogen phosphate, and potassium dihydrogen phosphate or a mixture of two or more of said phosphorous salts.

11. (Previously Presented) The process of claim 1, wherein the amount of inorganic phosphorous salt is between 0.3 and 5.0 weight percent of the formed zeolitic body.

12. (Previously Presented) The process of claim 1, wherein the amount of inorganic phosphorous salt is between 0.3 and 3.0 weight percent of the formed zeolitic body.

13. (Previously Presented) An adsorption reagent obtainable according to the process of claim 1.

14. (Previously Presented) A process to remove by adsorption one or more low molecular weight organic sulfur compounds from a gaseous or liquid stream, wherein the feed stream is passed through a bed of adsorption reagent produced by the method according to claim 1.

15. (Original) The process of claim 14, wherein the organic sulfur compounds are one or more low molecular weight mercaptans or sulfides.

16. (Previously Presented) The process of claim 14, wherein the process to remove by adsorption is carried out with an adsorption temperature of 60°C or lower.

17. (Previously Presented) A desorption process for the desorption of organic sulfur compounds from the adsorption reagent obtainable according to the process of claim 1, wherein the desorption is done by heating using a heating profile allowing the organic sulfur compounds to reach their equilibrium adsorption capacity at each temperature.

18. (Previously Presented) A desorption process, for the desorption of organic sulfur compounds from the adsorption reagent obtainable according to the process of claim 1, wherein

the desorption is done by fast heating to a basic temperature of at most 200°C, and then using a temperature halt at different temperature levels starting at the basic temperature.

19. (Previously Presented) A desorption process according to claim 18, wherein the halt time is at least 10 minutes at each temperature level.
20. (Previously Presented) A desorption process according to claim 18, wherein the temperature levels are at least 5°C and at most 50°C apart from each other.
21. (Previously Presented) A desorption process according to claim 17, wherein the desorption is done by fast heating to a basic temperature of at most 200°C, and then heating using a temperature increase of less than 3°C per minute above the basic temperature.
22. (Canceled)
23. (Previously Presented) The desorption process according to Claim 17, wherein the heating profile has a maximum temperature of at most about 320°C .
24. (Previously Presented) The desorption process according to claim 17, wherein the maximum regeneration temperature is about 320°C.
25. (Previously Presented) The desorption process according to claim 17, wherein the adsorption reagent is regenerated to its active adsorption state using a regeneration material selected from the group consisting of dry natural gas, methane, liquefied natural gas, hydrogen, nitrogen and hydrocarbons.
26. (Currently Amended) The desorption process according to Claim 21, wherein the adsorption reagent is regenerated to its active adsorption state using a regeneration material selected from the group consisting of dry natural gas, methane, ~~liquefied~~ liquefied natural gas, hydrogen, nitrogen, and hydrocarbons.
27. (Cancelled)
28. (Currently Amended) The process of Claim 1, wherein step a) includes the step of mixing an organic additive with the other materials mixed in ~~step~~ step a).
29. (Previously Presented) The process of Claim 15, wherein the process to remove by adsorption is carried out with an adsorption temperature of 60°C or lower.

30. (Previously Presented) A desorption process according to Claim 18 wherein the desorption is done by fast heating to a basic temperature in the range of about 100°C to 150°C.
31. (Previously Presented) A desorption process according to Claim 18, wherein the desorption is done by fast heating to a basic temperature of about 150°C.
32. (Previously Presented) A desorption process according to Claim 19, wherein the temperature levels are at least 5°C and at most 50°C apart from each other.
33. (Previously Presented) A desorption process according to Claim 21, wherein the desorption is done by fast heating to a basic temperature in the range of about 100°C to 150°C.
34. (Previously Presented) A desorption process according to Claim 21, wherein the desorption process is done by fast heating to a basic temperature of about 150°C.